WHAT IS CLAIMED IS:

1. A method of managing power in a data processing system, comprising:

monitoring a system parameter indicative of power consumption;

responsive to determining that the parameter differs from a specified threshold, causing a guest of the system to release a portion of system memory allocated by the guest; and

reclaiming the portion of system memory released by the guest and, responsive thereto, reducing system memory power consumption.

2. The method of claim 1, wherein monitoring a system parameter comprises monitoring the temperature of the system.

3. The method of claim 1, wherein monitoring a system parameter comprises monitoring the power consumption of the system.

4. The method of claim 1, wherein causing the guest to de-allocate a portion of system memory comprises causing at least one operating system of the system to de-allocate a portion of system memory.

5. The method of claim 4, wherein causing the operating system to de-allocate a portion of system memory includes invoking a balloon code device driver of the operating system to request memory.

6. The method of claim 5, wherein the balloon code device driver requests the operating system to allocate memory to it and, thereafter, the system memory allocated to the balloon device driver is reclaimed by a hypervisor.

7. A data processing system comprising, comprising:

a plurality of operating system images;

a hypervisor to manage memory allocation among the operating system images;

means for determining that a parameter indicative of system memory power consumption differs from a desired level; and

memory controller code, responsive to the determining means, to consume allocated memory by causing at least one of the operating systems to release or page out a portion of its allocated system memory.

8. The system of claim 7, wherein the determining means comprises monitoring a temperature of the system.

9. The system of claim 7, wherein the determining means comprises monitoring power consumption attributable to the system memory.

10. The system of claim 7, wherein the memory controller code determines a total amount of system memory to be consumed and allocates the total amount of system memory among the operating systems.

11. The system of claim 10, wherein the memory controller code allocates the total amount of system memory to be consumed to each operating system based, at least in part, on the total amount of system memory allocated to the operating system.

12. The system of claim 11, wherein the memory controller code allocates the total amount of system memory to be consumed by each operating system based, at least in part, on a relative activity level associated with the operating system.

13. The system of claim 7, further comprising a memory consumer device driver associated with each operating system, and wherein the memory controller code invokes the memory consumer device drivers to allocate system memory, wherein each memory consumer device drivers informs the hypervisor of its page allocations and wherein the hypervisor reclaims each of the pages.

14. The system of claim 7, wherein the hypervisor is further configured to compact the allocated system memory into a minimal number of separately powerable physical memory sections and still further configured to power down any separately powerable physical memory section containing no allocated memory pages.

15. A computer program product, comprising computer executable instructions stored on a computer readable medium, for system memory power consumption in a data processing system, comprising:

computer code means for monitoring an indicator of system memory power consumption;

computer code means for detecting a variance between the monitored indicator and a desired value;

computer code means for either consuming or releasing system memory responsive to the detected variance; and

computer code means, responsive to consuming system memory, for reducing system memory power consumption.

16. The computer program product of claim 15, wherein the code means for detecting the variance includes code means for detecting a variance between an emergency value and the monitored indicator and code means, responsive therefore, for consuming system memory regardless of the value of other system performance parameters.

17. The computer program product of claim 16, wherein the code means for detecting the variance further includes code means for detecting a variance between a second value and the monitored indicator and code means, responsive thereto, for consuming system memory depending upon the value of other system performance parameters.

18. The computer program product of claim 17, wherein the code means for detecting the variance further includes code means for detecting a variance between a third value and the monitored indicator and code means, responsive thereto, for releasing memory to the guests when the system memory power consumption permits it and a system performance parameter warrants it.

19. The computer program product of claim 15, further comprising a plurality of operating systems and a hypervisor configured to allocated memory across the plurality of operating systems, wherein the code means for consuming memory includes memory consumer code and a balloon device driver associated with each of the operating systems, wherein each balloon device driver is configured to allocate memory within its corresponding operating system to cause the operating system to page out allocated system memory.

20. The computer program product of claim 19, wherein the memory consumer code is configured to allocate an amount of memory to consume for each operating system based on each operating system's relative allocated memory and relative activity level.